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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,769	09/29/2003	William E. Marhofer	100570-00037	7541
4372	7590	01/12/2005	EXAMINER KERNS, KEVIN P	
ARENT FOX KINTNER PLOTKIN & KAHN 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			ART UNIT 1725	PAPER NUMBER

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,769

Applicant(s)

MARHOFER ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 2,9 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/960,719.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: '4' and '2' (Figure 1); "78" (Figures 2 and 3); and '10' and '12' (Figure 9). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because "72" should be changed to "74" in Figure 1. In Figure 11, "326" is directed toward the same structure twice, and it is believed that one of the "326" labels should be deleted. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being

amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: at the beginning of page 1 of the specification, a section should be added in reference to the parent application (and its foreign priority), as this application is a continuation application. On page 2, 5th line, "effect3ed" should be changed to "effected". Appropriate correction is required.

Claim Objections

4. Claims 2, 9, and 14 are objected to because of the following informalities: in claim 2, 1st line, "moveable" should be changed to "movable" for consistency with other claims. In claim 9, 1st line, "a" should be added before "feedback". In claim 9, 3rd line,

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"a" should be added before the 1st instance of "control". In claim 14, 1st line, "the" should be changed to "a" before "third" to establish proper antecedent basis.

Appropriate correction is required.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-5, 7-9, 11-13, and 15-18 of U.S. Patent No. 6,657,161. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed movable welding apparatus also include the following: a carriage for movement along a track mounted to a surface of an object (pipe) to be welded, with the carriage having a direction of movement lengthwise (circumferentially) relative to a weld pass to be formed; a welding head

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(torch) movably mounted to the carriage; a first transport mechanism (assembly) operable to move the torch transversely relative to movement of the carriage (first degree of freedom); a second transport mechanism (assembly) operable angularly (pivotably) to move the torch relative to movement of the carriage (second degree of freedom); a third transport mechanism varying spacing of the welding head (torch) normal to the surface of the object to be welded; and a controller and feedback apparatus operable to actuate the first and second transport mechanisms simultaneously and to vary the position of the welding head (torch) during operation, such that the movable welding apparatus is operable to vary position of the welding head (torch) in each of the first and second degrees of freedom (pivoting oscillation) while the welding head is in operation to form the weld pass. One of ordinary skill in the art would have recognized that the first and second transport mechanisms would be motorized to enable movement of the transport mechanisms with respect to the object to be welded to obtain control of oscillation, and that a pipe to be welded in US 6,657,161 is a subset of an object to be welded set forth in the present application. It would have been obvious to one of ordinary skill in the art to exclude the additional structural limitations set forth in US 6,657,161, as open-ended "comprising" language exists in the present application.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Slavens (US 4,631,386).

Slavens discloses a welding head apparatus for welding abutted pipe sections. The device includes a main carriage for moving circumferentially about one of the pipes and a welding head (torch) connected to the main carriage so that it is movable relative to the main carriage. A (first) transport mechanism is connected to the main carriage for vertically displacing the torch relative to the weld seam by using piston cylinders or knobs. This first transport mechanism includes a carriage fixed to the welding torch, knobs and piston cylinders to serve as means for providing vertical translation of the torch, and a frame that is connected to the main carriage and supports the translation means so that the carriage is slidably mounted to the frame by guide means in a direction vertical to the weld. Another (second) transport mechanism is connected to the main carriage for linearly translating the torch transversely of the weld seam by using knobs. This second transport mechanism includes a carriage connected to the torch, a knob and screw to serve as means for providing linear translation of the torch, and a frame that is fixed to the main carriage and supports the translation means so that

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the carriage is slidably mounted to the frame by guide means in a transverse direction to the weld. The frame of the first mechanism is fixed to the carriage of the second mechanism. A (third) transport mechanism is connected to the main carriage for pivotally moving the welding torch transversely of the weld seam. This third transport mechanism includes a frame connected to the main carriage, a mount for holding the torch that is pivotally attached to the frame, a motor that is fixed to the frame and provides impetus for the pivotal motion of the torch, and a gear train connected to the motor for transmitting the impetus of the motor to the mount to cause pivotal motion of the torch. The frame of this mechanism is pivotally connected to the carriage of the first and second transport mechanisms. This pivoting mechanism also includes a device for controlling and adjusting the oscillation of the torch by using limit switches and adjustment knobs (abstract; column 1, lines 20-33; column 2, lines 8-68; column 3, lines 1-48; column 4, lines 29-68; column 5, lines 1-18; and Figures 1, 3, 4, and 8).

9. Claims 1-6, 8-13, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lantieri et al. (US 5,571,431).

Lantieri et al. disclose a method and movable welding apparatus for controlling an arc welding process, in which the welding apparatus includes a carriage for movement along a track, with the carriage having a direction of movement lengthwise relative to a weld pass to be formed; a welding head (torch) movably mounted to the carriage; a first transport mechanism (assembly) operable to move the torch transversely relative to movement of the carriage (first degree of freedom); a second

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transport mechanism (assembly) operable angularly (pivotably) to move the torch relative to movement of the carriage (second degree of freedom); and a controller and feedback apparatus operable to actuate the first and second transport mechanisms simultaneously and to vary the position of the welding head (torch) during operation, such that the movable welding apparatus is operable to vary position of the welding head (torch) in each of the first and second degrees of freedom (pivoting oscillation) while the welding head is in operation to form the weld pass (abstract; column 7, lines 61-68; column 8, lines 1-14; and Figures 8 and 9).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 7 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lantieri et al. (US 5,571,431) in view of Omae et al. (US 4,144,992).

Lantieri et al. disclose the features of independent claims 1 and 10 above.

Lantieri et al. do not disclose a third transport mechanism (operable to obtain a third degree of freedom) varying spacing of the welding head normal to the surface of the object to be welded.

However, Omae et al. disclose an automatic welder for welding abutting pipes, in which a control system with a computer automatically conducts the welding operation. The welder allows for remote control of the operation when the welding is conducted in adverse environments. The computer is used to produce command signals to control welding and travel of the welding torch. A drive unit moves the torch carriage circumferentially around the pipe, and other motors are used to move the torch transversely of the weld and vertically. These motors are regulated by the controller, along with the weave of the welding torch in the welding seam. This controller is capable of actuating and controlling transverse, vertical, and oscillation motion simultaneously (three degrees of freedom as defined by an A-axis, an R-axis, and an S-axis, as shown in Figure 2), such that the third transport mechanism is operable to vary a third degree of freedom in the direction of the R-axis (corresponding to a variation of spacing of the welding head normal to the surface of the object to be welded), which is

advantageous for automatically welding a variety of pipe diameters (abstract; column 1, lines 18-36; column 3, lines 9-17; column 4, lines 26-38; column 5, lines 6-58; column 6, lines 13-46; column 8, lines 35-40; column 9, lines 36-52; and Figures 2, 4A, and 7).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the movable welding apparatus for controlling an arc welding process, as disclosed by Lantieri et al., by adding a third transport mechanism (operable to obtain a third degree of freedom) varying spacing of the welding head normal to the surface of the object to be welded, as taught by Omae et al., in order to vary a third degree of freedom (corresponding to a variation of spacing of the welding head normal to the surface of the object to be welded), which is advantageous for automatically welding a variety of pipe diameters (Omae et al.; abstract; column 1, lines 18-36; column 3, lines 9-17; column 4, lines 26-38; column 5, lines 27-58; and column 6, lines 43-46).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 1/10/05*
Examiner
Art Unit 1725

KPK
kpk
January 10, 2005